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# Biotechnology Notes

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**Biotechnology Notes**, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

## INSIDE USDA

### FIELD TEST DATA PRESENTED AT ABRAC MEETING

At the April 23-24 meeting of USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC), Ellis Kline, professor of microbiology at Clemson University, presented the soon-to-be-published results of a field test concerned with the spread of microorganisms in the environment. The test was supported in part by Monsanto Company, St. Louis, Mo.

Two genes from the common bacterium E. coli were inserted into another bacterium, Pseudomonas fluorescens. The E. coli gene served as a marker for tracking the Pseudomonas, which grows on certain plant roots. The Pseudomonas was placed along with wheat seeds in a specially designed field plot. After thoroughly examining the data for 19 months, scientists at Clemson concluded that the Pseudomonas does not spread into the environment and remains virtually where it is placed.

According to Kline, at this time the field test with the transgenic microbe is the most thorough one of its kind and could serve as a starting point for other researchers involved in collecting information on environmental behaviour of genetically modified microbes.

### HAWAII CONSIDERING OWN BIOTECH REGULATIONS

Several states have in place or are considering enacting their own sets of regulations for field testing genetically engineered products. Hawaii, though, is the first state that may pass a law that would require a state environmental assessment, in addition to the one prepared by the Federal government, for each field test of an engineered organism. USDA's Animal and Plant Health Inspection Service (APHIS), the agency responsible for issuing permits and regulating biotech field tests, is concerned that these states may not be clear about the depth and scope of the Federal rules and may unnecessarily duplicate those rules and regulations that are already in place. Three field tests to be conducted in Hawaii were approved by both APHIS and the Hawaii State Department of Agriculture for the 1988 and 1989 growing seasons; additional tests are expected in the future.

To help explain the scope of APHIS's requirements and clear up any confusion, L. Val Giddings, senior staff geneticist with APHIS's Biotechnology, Biologics, and Environmental Protection (BBEP) unit, visited Honolulu April 2 through 6 and met with members of the community. He discussed the Federal review process and Hawaii's proposed legislation with state legislators and with representatives from Hawaii's environmental, academic, and biotech industries. Giddings answered many questions about the stepwise process APHIS follows when reviewing applications for permits or preparing environmental assessments. The exchange of views resulted in a clearer understanding of both USDA's biotech regulations and the State's concerns about protecting the environment and public health.

#### NBIAP QUICK REFERENCE CARD NOW AVAILABLE

USDA's National Biological Impact Assessment Program (NBIAP) brochure, which explains how to use the biotechnology bulletin board, now includes a handy quick-reference card for users. It details how to select databases, download information, send messages to the bulletin board or to colleagues, and how to read new messages. To receive the brochure, along with the reference card, call David MacKenzie, NBIAP Director, at 202-382-1692.

#### NEW HANDBOOK CHOCK FULL OF INFORMATION

If your head's reeling from everything written these days about field tests, maybe it's time to sit down with one volume that covers all the major issues. Agricultural Biotechnology: Introduction to Field Testing, a new publication prepared by USDA's Office of Agricultural Biotechnology (OAB), has chapters on regulatory requirements for plants, animals, food, and pesticides; the National Environmental Protection Act and what goes into preparing environmental assessments and environmental impact statements; the role of the principal investigator, the institution, and the USDA; as well as chapters on confinement, public awareness, and socio-economic factors.

The addendum is as useful as the main body of the text. A convenient glossary of terms helps the reader nail down definitions. A list of Federal agency contacts (including addresses and phone numbers) is also provided, as well as an index and list of publications for further reading.

The handbook can be read and understood by both scientists and the lay public. Also, anyone considering conducting a field trial will find it dovetails with USDA's research guidelines, which are now being fine-tuned.

For information on ordering a copy of the handbook, write to Agricultural Biotechnology, Attn: H. G. Purchase, P.O. Drawer V, Mississippi State, Miss. 39762.

#### ALL ABOUT BIOSAFETY

Biosafety is a term that refers to the procedures followed when scientists conduct field tests of genetically modified plants and organisms. Such procedures are intended to protect both people and the environment. An upcoming international symposium



will focus on the biosafety results of field tests and identify those areas that need more data. Researchers from academia and industry with first-hand experience in field testing will share the biosafety results from their field experiments.

The meeting is entitled "International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms." It will take place November 27-30, 1990, on Kiawah Island south of Charleston, S.C. The USDA and Clemson University are among the sponsors.

The agenda includes sessions on: 1) Biosafety Implications from Contained Experiments; 2) Biosafety Protocol Development for Field Testing; 3) Biosafety Review and Release Certification; 4) Research Plot Establishment, Monitoring, and Termination; 5) Post Termination Evaluation of Biosafety Data; and 6) The Next Step: Beyond the Small Plot.

More details concerning the program and registration will appear in upcoming issues of Biotechnology Notes.

### NEWS AROUND THE COUNTRY (AND THE WORLD)

#### BRIDGE PROGRAM LAUNCHED

The Commission of the European Communities (EC) is launching its third major research program in biotechnology this year. BRIDGE (Biotechnology Research for Innovation, Development and Growth in Europe) will fund 100 million ECU's\* (European Currency Unit) of research during 1990-1994. This is in addition to the research being conducted by the 12 member states, who are expected to use their own funding to augment grants from the EC.

BRIDGE is designed to forge links between labs in different member states by encouraging them to work together on precompetitive research projects. It also stimulates technology transfer by encouraging joint applications from public labs and private companies located in the member states.

BRIDGE's scientific program is aimed at research and training in four areas: information systems, enabling technologies (protein design, biotransformation and genome mapping), cellular biology, and normative research (biosafety studies and in vitro evaluation of the toxicity and pharmacological activity of molecules).

BRIDGE will fund two different types of projects. "N" projects are aimed at removing bottlenecks resulting from gaps in basic knowledge and will normally be funded at the 200,000 to 400,000 ECU level annually over several years. "T" projects are designed to remove bottlenecks resulting from scale or structural constraints. Funding for the "T" projects will normally be at the 1-3 million ECU level annually for several years.

\*An ECU is a monetary unit used by the EC; it is a composite of member states' currencies.

## IN CASE YOU WEREN'T THERE

- On March 20 and 21, Agriculture Canada gave a workshop in Ottawa entitled "Genetically Modified Microbial Fertilizers and Pest Control Agents." Scientists, regulators, industry and environmental advocates attended, as well as Sally McCammon and James White from APHIS's BBEP unit. The focus was on environmental impacts, identification of genetically modified organisms, and human health considerations. Participants emphasized scientific rationales and language and regulatory harmonization. White and McCammon also attended an informal meeting held March 22 with the Seeds Division of Agriculture Canada on "Issues Associated with Large-Scale Field Tests." Information was exchanged on definitions, criteria, experience, international coordination, and possibilities for reciprocal recognition of products.
- "Constraints Associated with Progress of Biotechnology in Plant Pathology" was the topic of a panel discussion held at the 47th annual meeting of the Potomac Division of the American Phytopathological Society, March 21, in Morgantown, West Virginia. John Payne, BBEP senior staff microbiologist, served on the panel, which also included representatives from academia, industry, and public interest groups. The primary constraint discussed was the lack of adequate funding for basic research in molecular biology of plants and plant pathogens. Negative public opinion was another constraint that generated considerable discussion.
- The notion of transgenic animals often brings to mind ethical, social, moral, economic, and food safety concerns. Other important areas of concern to various groups include the current regulatory structure and patenting issues. For example: Are current statutes adequate for regulating transgenic animals? Should farmers be exempt from patenting laws and paying out royalties? To help clarify these legal issues and others, Michael Lidsky, BBEP deputy director, gave a presentation at the District IV Annual Meeting of the American Association for Laboratory Animal Science, March 22, in Raleigh, N.C. Lidsky spoke about USDA's regulatory authorities and pending legislation in Congress related to transgenic animals.
- "Mapping Domestic Animal Genomes: Needs and Opportunities" was the focus of a conference held April 8-10 at the University of Illinois. OAB Director Alvin Young gave the keynote address, explaining how projects, such as the one to map domestic animal genomes, become national initiatives in the Federal government. He noted the importance of establishing a strong need for a project and a broad base of support from the scientific community. Young explained the pivotal part played by the Office of Management and Budget (OMB) in securing funding. Following OMB approval, Young said a project still needs to be supported by the funding agency, top agency officials, the President, and the Congress. Members of Congress often ask for testimony from both advocates and opponents of a project. If Congress approves the project, the responsibility for implementation then returns to the funding agency. Young concluded his remarks emphasizing the need to begin the process early in the fiscal cycle and to keep it moving and on track.

## NEW PUBLICATIONS

- The American Type Culture Collection, a Rockville, Md. organization that distributes biological cultures worldwide, is publishing a free, quarterly newsletter that



lists algae, bacteria, cell lines, fungi, recombinant genetic materials, viruses, yeasts, etc. available from its collection. For more information, call Patrick Burke at 301-231-5524.

- The first issue of Wisconsin BioBusiness, a free newsletter prepared 10 times a year by the University of Wisconsin's Biotechnology Center, was launched April 1990. To get on the mailing list, send your name, firm name, and address to BTO, UWBC, 1710 University Ave., Madison, Wisc. 53705.

- Enhanced Biodegradation of Pesticides in the Environment, edited by Kenneth Racke and Joel Coats. May 1990. This volume is developed from a symposium sponsored by the Division of Agrochemicals at the 198th National Meeting of the American Chemical Society, Miami, Fla., September 10-15, 1989. ISBN 0-8412-1784-X. \$64.95. To order call 800-ACS-5558.

#### UPCOMING MEETINGS

**May 23-25:** Fourth International Meeting of the Association of Biotechnology Companies. Toronto, Ontario, Canada. Sponsored by the Association of Biotechnology Companies. Call 202-842-2229.

**May 29-June 1:** International Conference on Issues in Food Safety and Toxicology. Michigan State University. East Lansing, Mich. Sponsored by the Center for Environmental Toxicology. Call 517-355-4466.

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**June 6-8:** Conference on Aquaculture Feeds and Veterinary Products. Stamford, Conn. Sponsored by the Technology Management Group. Call 203-786-5445.

**June 7-8:** Seminar on "Biotechnology and the Future of Agriculture," sponsored by the Farm Foundation. Chicago, Ill. OAB Director Alvin Young will discuss policy issues at the panel session entitled "Impacts, Strategies, and Policy Issues." Call 708-571-9393.

**June 7-10:** 1990 ASM Conference on Biotechnology. Chicago, Ill. Sponsored by the American Society for Microbiology. Call Richard Bray at 202-737-3600 for more information.

**June 11-13:** "Agricultural Biotechnology, Food Safety and Nutritional Quality for the Consumer." Ithaca, N.Y. Conference sponsored by the National Agricultural Biotechnology Council and the Agricultural Research Institute. For details, call Hana Barker at 607-254-4856.

**June 11-14:** Fourth Annual Seminar on Analytical Biotechnology. Arlington, Va. Call 301-898-3772.

**June 20:** California Agricultural Trade Seminar: Profiting from Change in the 1990's. Sacramento, Calif. OAB Director Alvin Young will serve as the discussion

leader for a session entitled "Changing Technology", which focuses on how biotechnology will affect the conduct of trade and competitiveness. Call 415-642-5440.

June 20-21: The Third National Corn Utilization Conference. St. Louis, Mo. For more information, call the National Corn Growers Association at 314-275-9915; or FAX a message to 314-275-7061.

June 20-22: "Biotechnology and International Trade: 1992 and Beyond" is the theme of a symposium to be held in Maastricht, The Netherlands. For details write to Ms. Rohini Acharya, IFIAS-Maastricht, Witmakersstraat, 10, 6211 JB, Maastricht, The Netherlands; or phone 043-250465. The FAX number is 043-218820.

June 21: "Status Report on Federal Regulatory Issues Affecting Biotechnology." Gaithersburg, Md. Sponsored by Montgomery County, Maryland's High Technology Council. Call 301-762-6325.

June 24-27: Conference on agricultural technologies and international competitiveness. Washington, D.C. Sponsored by the Agribusiness Council Inc. Call 202-296-4563.

June 24-29: The Seventh International Congress on Plant Tissue and Cell Culture. Amsterdam, The Netherlands. Call 020-54912; Fax: 020-464469.

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July 30-31: Annual meeting of the American Society of Agronomy, North Central Branch. St. Paul, Minn. Includes a special session entitled "Getting Biotech Into the Field." Call 612-625-8215 to register.

July 31-August 3: Annual Meeting of the American Society of Animal Science. Ames, Iowa. For details, call Robert Zimbelman at 301-571-1875.

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